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Case Report

Nodular fasciitis: a rare case report type of article

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ABSTRACT

Nodular fasciitis is defined as a benign and reactive fibroblastic growth extending from the superficial fascia into the subcutaneous tissue or muscle. It is a rare benign neoplasm most commonly afflicting the soft tissues of upper extremity followed by trunk, head, and neck. It accounts for 0.025% of all pathologic diagnosis. We report a case of a swelling over the right scapula which on cytology examination was diagnosed as a benign spindle cell lesion. It was subsequently confirmed to be an intramuscular nodular fasciitis on histopathological examination.

Keywords: Infiltrative fasciitis, Nodular fasciitis, Pseudosarcomatous fasciitis, Pseudosarcomatous fibromatosis

INTRODUCTION

Nodular fasciitis, first described by Konwaler and Weiss in 1955 is also known as pseudosarcomatous fasciitis, pseudosarcomatous fibromatosis and infiltrative fasciitis.[1] It is a rare benign neoplasm most commonly afflicting the soft tissues of upper extremity followed by trunk, head, and neck. The upper extremity is the most common location (34%), followed by the head and neck region (24%), trunk (21%), and lower extremity (14%).[2]

A nodular fasciitis should be surgically excised to obtain complete cure as the chances of local recurrence are almost nil (<1%).[3] We report a case of nodular fasciitis in a 17 year old gentleman.

A 17-year-old male presented with a swelling over the right scapular region for 2 months. Swelling was initially small in size and gradually increased in size. There was history of pain over the swelling with movements of shoulder joint. There was no history of trauma, fever or loss of weight.

CASE REPORT

On examination, there was a swelling of size 8 x 6cm over the right scapula extending from the spine of scapula superiorly and medially extending up to the midline (Figure 1).

It was hard in consistency, irregular, tender on pressure and fixed to underlying scapula. There was no restriction of movements at shoulder joint. A clinical diagnosis of soft tissue sarcoma was considered.

Magnetic Resonance Imaging (MRI) showed a large, ill-defined lobulated, heterogeneous altered signal intensity lesion with irregular margins predominantly in the subcutaneous plane in postero-superior aspect of right scapula measuring 9.6x7.6x2.8cm (Figure 2). Lesion appeared predominantly hyperintense on T2WI and STIR and isointense on T1WI. A probable differential diagnosis of peripheral nerve sheath tumour or soft tissue tumour was considered. Chest Radiography was within normal limits. On Fine Needle Aspiration Cytology, spindle cells were seen suggestive of benign spindle cell lesion.

Figure 1: Back of the patient showing the swelling.

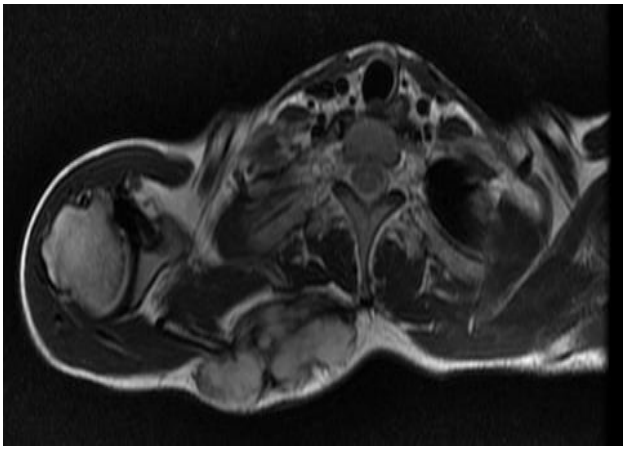

Figure 2: MRI showing large ill-defined mass in the subcutaneous plane in postero-superior aspect of right scapula.

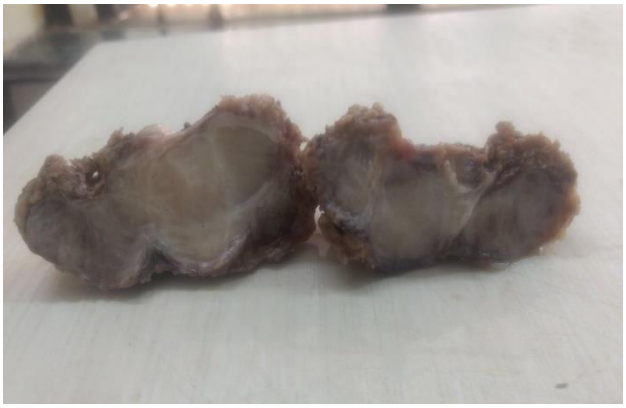

Figure 3: Cut section of the mass.

Intraoperatively, a nodular and hard mass was present which was adherent to the spine of scapula below and extending to the spinous process of vertebra medially. It was removed. On cut section, the mass was fleshy with areas of necrosis (Figure 3). Post-operatively, patient recovered well. On histopathological examination, multiple areas of the mass were studied. They revealed partly circumscribed tumour mass composed of hypercellular areas of round to oval cells with spindle nuclei, prominent nucleoli, and scanty cytoplasm and are separated by fibrocollagenus tissue (Figure 4). Few congested vessels, fibroadipose and fibromuscular tissue was also seen. These histological features were suggestive of Nodular Fasciitis.

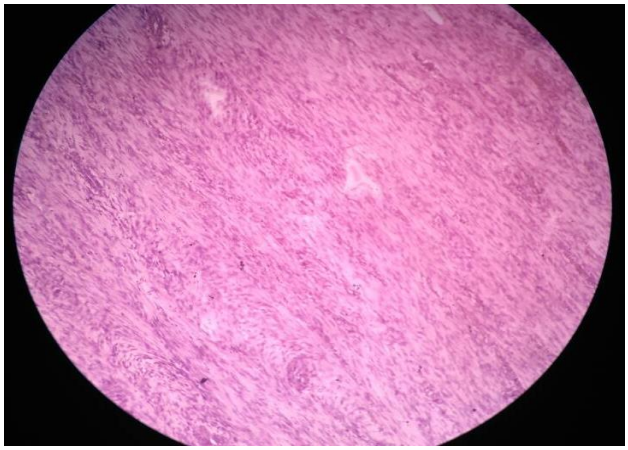

Figure 4: Hypercellular areas of round to oval cells with spindle nuclei.

DISCUSSION

Nodular fasciitis, first described by Konwaler and Weiss in 1955 is also known as pseudosarcomatous fasciitis, pseudosarcomatous fibromatosis and infiltrative fasciitis.[1] It is defined by the World Health Organization as a benign and reactive fibroblastic growth extending from the superficial fascia into the subcutaneous tissue or muscle. The pathogenesis might involve a local reactive or inflammatory process of fibrous connective tissue.[4]

It is a rare benign neoplasm most commonly afflicting the soft tissues of upper extremity followed by trunk, head, and neck. The upper extremity is the most common location (34%), followed by the head and neck region (24%), trunk (21%), and lower extremity (14%).[2] Nodular fasciitis accounts for 0.025% of all pathologic diagnosis.[5] It is commonly seen in fourth decade with no gender predilection.[6] Our patient was 17 years old.

Symptoms such as numbness, paraesthesia or shooting pain are less frequent, but when present indicate compression of a peripheral nerve. Nodular fasciitis occurs as three types according to the plane of tissue involved: subcutaneous, intramuscular and fascial. The subcutaneous form is most common, followed by the fascial form, with the intra-muscular form being the least common.[5] The lesion is usually attached to the fascia from which it arises and extends into the subcutaneous fat in an irregular fashion.

The etiology is still unknown. It is considered to occur due to unusual proliferation of myofibroblasts triggered by local injury or inflammatory process.[7] There was no history of trauma in our patient. Rarely involved sites include breast, intra-articular, nerve sheaths, and retroperitoneum.[8]

Fine needle aspiration cytology (FNAC) can be done in the initial evaluation though the diagnosis is quite challenging. The relatively small amount of tissue obtained is often insufficient for a definitive panel of special stains, and thus surgical excision with histological evaluation is recommended.[9] In our patient though clinical suspicion of malignancy was present, FNAC revealed that it was benign.

On MRI, the lesion often appears as homogenous T1 signal iso-intense to adjacent skeletal muscles and shows heterogeneous intermediate to high signal with different enhancement patterns on T2- or short TI Inversion-Recovery (STIR) weighted sequences attributable to the variable components and cellularity on histology. In the literature, reported differential diagnoses for nodular fasciitis on MRI include an extra-abdominal desmoid tumor, neurofibroma, fibrous histiocytoma, and soft tissue sarcoma.[10]

The features such as rapid growth, rich cellularity, high mitotic activity and poorly circumscribed nature may result in it being easily misdiagnosed as a sarcomatous lesion like malignant fibrous histiocytoma or fibrosarcoma.[11] Benign nerve sheath tumors such as schwannoma and neurofibroma are also important differential diagnosis of nodular fasciitis.

A nodular fasciitis should be surgically excised to obtain complete cure as the chances of local recurrence are almost nil (<1%).[3] The condition has an excellent prognosis. Spontaneous regression has been reported. Rapid resolution of the nodule has been reported to occur with intralesional corticosteroid injection by Graham et al.[12] This is recommended when the lesion cannot be completely excised as when it extends into the muscle.

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